CLAIMS

1. A system for analysing ECG curvature wherein at least one among a number of different parameters is isolated and stored, which system has input means connected to an ECG source, where the different parameters of a received ECG curvature are indicated and/or isolated for indicating symptoms, where a first number of selected parameters from at least three main groups, which groups comprise parameters of symmetry, flatness, duration and/or complexity, are combined in at least a first mathematical analysis, where the result of the analysis is represented as a point in at least one coordinate system, comprising at least one axis, where the system compares the actual coordinates in the coordinate system with a number of reference parameters stored in the system, for indicating symptoms or diseases having influence on the ECG curvature, where the system analyses the QT curvature of the ECG for indicating hereditary or acquired Long QT Syndrome.

2. A system for analysing ECG curvature according to claim 1, **characterised in** that the system is analysing ECG curvature for Long QT Syndrome acquired by drug influence.

3. System according to one of the claims 1-2, **characterised in** that the analysing process is repeated in the system for further selected parameters in order to achieve more reliable results.

4. System according to one of the claims 1- 3, **characterised in** that the group of symmetry comprises at least the following parameters:

S1 Symmetry evaluated from Tstart to Tend.

S2 Symmetry with Tpeak as mean evaluated from Tstart to Tend.

S3 Symmetry with Tpeak as mean evaluated in a symmetric interval of 10% of the Tstart-Tend-interval surrounding Tpeak.

S4 Symmetry with Tpeak as mean evaluated in a symmetric interval of 20% of the Tstart-Tend-interval surrounding Tpeak.

S5 Ratio of the time interval "Tstart to Tpeak" and the time interval "Tpeak to Tend.

S6 Ratio of the average slope from Tstart to Tpeak and from Tpeak to Tend.

S7 Variation evaluated from Tstart to Tend, calculated by the formula.

S8 Variation with Tpeak as mean evaluated from Tstart to Tend.

S9 Variation with Tpeak as mean evaluated in a symmetric interval of 10% of the Tstart-Tend-interval surrounding Tpeak.

S10 Variation with Tpeak as mean evaluated in a symmetric interval of 20% of the Tstart-Tend-interval surrounding Tpeak.

S11 The Hill parameter, K_m, evaluated by least square fitting of the repolarisation integral, RI(t), from the Jpoint to the following Ponset.

S12 The Hill parameter, K_m, evaluated by least square fitting of the repolarisation integral, RI(t), from Tstart to Tend.

5. System according to one of the claim 1-3, **c h a r a c t e r i s e d in** that the group of flatness comprises at least the following parameters:

F1 Flatness evaluated from Tstart to.

F2 Flatness parameter, F1, normalized by the size of the R wave.

F3 Flatness with Tpeak as mean evaluated from Tstart to Tend.

F4 Flatness parameter, F3, normalized by the size of the R wave.

F5 Flatness with Tpeak as mean evaluated in a symmetric interval of 10% of the Tstart-Tend-interval surrounding Tpeak.

F6 Flatness parameter, F5, normalized by the size of the R wave.

F7 Flatness with Tpeak as mean evaluated in a symmetric interval of 20% of the Tstart-Tend-interval surrounding Tpeak.

F8 Flatness parameter, F7, normalized by the size of the R wave.

F9 Ratio of the total area under the T-wave from Tstart to Tpeak and the corresponding time interval.

F10 Flatness parameter, F9, normalized by the size of the R wave.

F11 Ratio of the total area under the T-wave from Tpeak to Tend and the corresponding time interval.

F12 Flatness parameter, F11, normalized by the size of the R wave.

F13 Ratio of the total area under the T-wave from Tstart to Tend and the corresponding time interval.

F14 Flatness parameter, F13, normalized by the size of the R wave.

F15 Ratio of the T wave height and the T wave width.

F16 The T wave height.

F17 Average slope from Tstart to Tpeak.

F18 Average slope from Tpeak to Tend.

F19 The Hill parameter, n, evaluated by least square fitting of the repolarisation integral, RI(t), from the Jpoint to the following Ponset.

F20 The Hill parameter, n, evaluated by least square fitting of the repolarisation integral, RI(t), from Tstart to Tend

F21 The Hill parameter, V_{max}, evaluated by least square fitting of the repolarisation integral, RI(t), from the Jpoint to the following Ponset.

F22 The Hill parameter, V_{max}, evaluated by least square fitting of the repolarisation integral, RI(t), from Tstart to Tend.

6. System according to one of the claims 1-3, **c h a r a c t e r i s e d in** that the group of duration comprises at least the following parameters:

QTc The Q-T interval normalized by the square root of the R-R interval according to Bazett's formula.

D2 The time interval from Tstart to Tend.

D3 The time interval from Tstart to Tpeak.

D4 The time interval from Tpeak to Tend

7. System according to one of the claims 1-3, **c h a r a c t e r i s e d in** that the group

C1: Number of local maxima between Tstart and Tend; the minimum number is one.
C2: Number of phases between Tstart and Tend, where a phase is defined as a singly connected part of the wave that is entirely above or entirely below the iso-electric line; the minimum number is one.

8. System according to one of the claims 1-7, **c h a r a c t e r i s e d in** that the system is selecting and combining parameters from different groups.

9. System according to one of the claims 1-8, **c h a r a c t e r i s e d in** that the system is trained during use, where the parameters' values are calculated for individual subjects, where the mathematical analysis of the parameters chooses at least one optimal small parameter set out of the complete number of parameters from all categories.

10. System according to one of the claims 1-10, **c h a r a c t e r i s e d in that** the final classification function is at least based on data from at least one LQT or drug influenced group and Normal subjects stored as a training set, with the consequences that the classification method is improved by adding new subjects to the training set, which new subject can be tailored to demographic or gender differences.

11. Method for analysing drug influence on ECG curvature, which curvature contains a number of parameters, **c h a r a c t e r i s e d in that** the method for analysing the ECG curvature incorporates the steps of:

a) receiving ECG curvature from a source,
b) indicating a number of different parameters contained in the received ECG curvature,
c) storing the parameters in storage means,
d) selecting disease specific parameters in the storage means
e) selecting parameters from at least three groups, which groups comprises parameters of symmetry, flatness, duration and/or complexity.
f) combining selected parameters in mathematical analysing means
g) representing the result of the mathematical analysis as a point in at least one coordinate system, which coordinate system comprises at least one axis

h) comparing the actual placement in the coordinate system with a number of reference parameters stored in a memory,

i) analysing the QT curvature of the ECG for indicating drug induced changes.

12. Method according to claim 11, **c h a r a c t e r i s e d in** that the method is repeating the analysing process for further selected parameters for achieving more reliable results.

13. Use of a system for analysing ECG curvature for test of drugs, which system has input means connected to an ECG source, wherein at least one among a number of different parameters is isolated and stored in the system, where the different parameters of a received ECG curvature are indicated and/or isolated for indicating possible symptoms, where a number of selected parameters, are combined in at least a first mathematical analysis, where the result of the analysis is represented as a point in at least one coordinate system, comprising at least one axis, where the system compares the actual placement in the coordinate system with a number of reference parameters stored in the system, for indicating symptoms having influence on the ECG curvature, where the parameters of the ECG curvature are calculated before and after a drug test for a number of subjects, where the difference for selected parameters between before and after testing are calculated for each subject, where the system analyses the QT curvature of the ECG for indicating acquired Long QT syndrome, where a statistical analysis of selected parameters for a number of subjects gives statistical significance for at least one of the following decisions:

"accept of the drug"

"rejection of the drug"

"further testing of the drug".